

Appl. No.: 09/883,082  
Amdt. Dated: 04/19/2005  
Off. Act. Dated: 03/29/2005

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (currently amended): A method for routing data packets in a wireless network at a node  $i$ , comprising:

selecting a neighbor  $p$  as ~~[[the]]~~ a next hop in a route from node  $i$  to destination  $j$  if

- (i) the path from neighbor  $p$  to destination  $j$  does not include node  $i$  and does not repeat any node, and
- (ii)  $D_{yp}^i < D_{yx}^i$  for any other neighbor  $x$  and for all nodes  $y$  that are in the path from destination  $j$  to neighbor  $p$ ,

where  $D_{yp}^i$  is the distance value of the route from node  $i$  to node  $y$  through neighbor  $p$  and  $D_{yx}^i$  is the distance value of the route from node  $i$  to node  $y$  through neighbor  $x$ .

2. (original): A method as recited in claim 1,  
wherein a first node considers a second as its neighbor if it hears update messages from said second node; and  
wherein said first node no longer considers said second node as its neighbor if said first node cannot send data packets to said second node.

3. (original): A method as recited in claim 1, further comprising:  
sending updates to a routing table if

Appl. No.: 09/883,082  
 Amdt. Dated: 04/19/2005  
 Off. Act. Dated: 03/29/2005

a node discovers a new destination with a finite and valid path to the destination, or  
 a node loses the last path to a destination, or  
 a node suffers a distance increase to a destination.

4. (original): A method as recited in claim 1, further comprising:

sending a unicast routing table update from a node to a neighbor that sends it a data packet, if the neighbor is upstream from it towards the destination; and

sending a unicast routing table update from a node to a neighbor that sends it a data packet when the path implied by the neighbor's distance table entry is different from the path implied by the node's routing table.

5. (currently amended): A method for routing data packets in a wireless network at a node  $i$ , comprising:

(a) selecting a neighbor  $p$  as ~~[[the]]~~ a next hop in a route from node  $i$  to destination  $j$  if

(i) the path from neighbor  $p$  to destination  $j$  does not include node  $i$  and does not repeat any node, and

(ii)  $D_{yp}^i < D_{yx}^i$  for any other neighbor  $x$  and for all nodes  $y$  that are in the path from destination  $j$  to neighbor  $p$ ,

where  $D_{yp}^i$  is the distance value of the route from node  $i$  to node  $y$  through neighbor  $p$  and  $D_{yx}^i$  is the distance value of the route from node  $i$  to node  $y$  through neighbor  $x$ ;

(b) wherein a first node considers a second as its neighbor if it hears update messages from said second node; and

Appl. No.: 09/883,082  
Amdt. Dated: 04/19/2005  
Off. Act. Dated: 03/29/2005

(c) wherein said first node no longer considers said second node as its neighbor if said first node cannot send data packets to said second node.

6. (original): A method as recited in claim 5, further comprising sending updates to a routing table if

a node discovers a new destination with a finite and valid path to the destination, or

a node loses the last path to a destination, or

a node suffers a distance increase to a destination.

7. (original): A method as recited in claim 5, further comprising:

sending a unicast routing table update from a node to a neighbor that sends it a data packet, if the neighbor is upstream from it towards the destination; and

sending a unicast routing table update from a node to a neighbor that sends it a data packet when the path implied by the neighbor's distance table entry is different from the path implied by the node's routing table.

8. (currently amended): A method for routing data packets in a wireless network at a node  $i$ , comprising:

(a) selecting a neighbor  $p$  as ~~[[the]]~~ a next hop in a route from node  $i$  to destination  $j$  if

(i) the path from neighbor  $p$  to destination  $j$  does not include node  $i$  and does not repeat any node, and

(ii)  $D_{yp}^i < D_{yx}^i$  for any other neighbor  $x$  and for all nodes  $y$  that are in the path from destination  $j$  to neighbor  $p$ ,

Appl. No.: 09/883,082  
Amdt. Dated: 04/19/2005  
Off. Act. Dated: 03/29/2005

where  $D_{yp}^i$  is the distance value of the route from node  $i$  to node  $y$  through neighbor  $p$  and  $D_{yx}^i$  is the distance value of the route from node  $i$  to node  $y$  through neighbor  $x$ ; and

- (b) sending updates to a routing table if
- (i) a node discovers a new destination with a finite and valid path to the destination, or
  - (ii) a node loses the last path to a destination, or
  - (iii) a node suffers a distance increase to a destination.

9. (original): A method as recited in claim 8,  
wherein a first node considers a second as its neighbor if it hears update messages from said second node; and  
wherein said first node no longer considers said second node as its neighbor if said first node cannot send data packets to said second node.

10. (original): A method as recited in claim 8, further comprising:  
sending a unicast routing table update from a node to a neighbor that sends it a data packet, if the neighbor is upstream from it towards the destination; and  
sending a unicast routing table update from a node to a neighbor that sends it a data packet when the path implied by the neighbor's distance table entry is different from the path implied by the node's routing table.

11. (currently amended): A method for routing data packets in a wireless network at a node  $i$ , comprising:

- (a) selecting a neighbor  $p$  as a next hop in a route from node  $i$  to destination  $j$  if

Appl. No.: 09/883,082  
Amdt. Dated: 04/19/2005  
Off. Act. Dated: 03/29/2005

- (i) the path from neighbor  $p$  to destination  $j$  does not include node  $i$  and does not repeat any node, and
- (ii)  $D_{yp}^i < D_{yx}^i$  for any other neighbor  $x$  and for all nodes  $y$  that are in the path from destination  $j$  to neighbor  $p$ ,

where  $D_{yp}^i$  is the distance value of the route from node  $i$  to node  $y$  through neighbor  $p$  and  $D_{yx}^i$  is the distance value of the route from node  $i$  to node  $y$  through neighbor  $x$ ;

- (b) sending a unicast routing table update from a node to a neighbor that sends it a data packet, if the neighbor is upstream from it towards the destination; and
- (c) sending a unicast routing table update from a node to a neighbor that sends it a data packet when the path implied by the neighbor's distance table entry is different from the path implied by the node's routing table.

12. (original): A method as recited in claim 11,  
wherein a first node considers a second as its neighbor if it hears update messages from said second node; and  
wherein said first node no longer considers said second node as its neighbor if said first node cannot send data packets to said second node.

13. (original): A method as recited in claim 11, further comprising  
sending updates to a routing table if  
a node discovers a new destination with a finite and valid path to the destination, or  
a node loses the last path to a destination, or  
a node suffers a distance increase to a destination.

Appl. No.: 09/883,082  
Amdt. Dated: 04/19/2005  
Off. Act. Dated: 03/29/2005

14. (currently amended): A method for routing data packets in a wireless network at a node  $i$ , comprising:

- (a) selecting a neighbor  $p$  as ~~[[the]]~~ a next hop in a route from node  $i$  to destination  $j$  if
  - (i) the path from neighbor  $p$  to destination  $j$  does not include node  $i$  and does not repeat any node, and
  - (ii)  $D_{yp}^i < D_{yx}^i$  for any other neighbor  $x$  and for all nodes  $y$  that are in the path from destination  $j$  to neighbor  $p$ ,  
where  $D_{yp}^i$  is the distance value of the route from node  $i$  to node  $y$  through neighbor  $p$  and  $D_{yx}^i$  is the distance value of the route from node  $i$  to node  $y$  through neighbor  $x$ ; and
- (b) sending updates to a routing table if
  - (i) a node discovers a new destination with a finite and valid path to the destination, or
  - (ii) a node loses the last path to a destination, or
  - (iii) a node suffers a distance increase to a destination;
- (c) wherein a first node considers a second as its neighbor if it hears update messages from said second node; and
- (d) wherein said first node no longer considers said second node as its neighbor if said first node cannot send data packets to said second node.

15. (original): A method as recited in claim 14, further comprising:

sending a unicast routing table update from a node to a neighbor that sends it a data packet, if the neighbor is upstream from it towards the destination; and

Appl. No.: 09/883,082  
Amdt. Dated: 04/19/2005  
Off. Act. Dated: 03/29/2005

sending a unicast routing table update from a node to a neighbor that sends it a data packet when the path implied by the neighbor's distance table entry is different from the path implied by the node's routing table.

16. (currently amended): A method for routing data packets in a wireless network at a node  $i$ , comprising:

- (a) selecting a neighbor  $p$  as ~~[[the]]~~ a next hop in a route from node  $i$  to destination  $j$  if
- (i) the path from neighbor  $p$  to destination  $j$  does not include node  $i$  and does not repeat any node, and
- (ii)  $D_{yp}^i < D_{yx}^i$  for any other neighbor  $x$  and for all nodes  $y$  that are in the path from destination  $j$  to neighbor  $p$ ,

where  $D_{yp}^i$  is the distance value of the route from node  $i$  to node  $y$  through neighbor  $p$  and  $D_{yx}^i$  is the distance value of the route from node  $i$  to node  $y$  through neighbor  $x$ ;

- (b) sending a unicast routing table update from a node to a neighbor that sends it a data packet, if the neighbor is upstream from it towards the destination; and
- (c) sending a unicast routing table update from a node to a neighbor that sends it a data packet when the path implied by the neighbor's distance table entry is different from the path implied by the node's routing table;
- (d) wherein a first node considers a second as its neighbor if it hears update messages from said second node; and
- (e) wherein said first node no longer considers said second node as its neighbor if said first node cannot send data packets to said second node.

Appl. No.: 09/883,082  
Amdt. Dated: 04/19/2005  
Off. Act. Dated: 03/29/2005

17. (original): A method as recited in claim 16, further comprising  
sending updates to a routing table if  
a node discovers a new destination with a finite and valid path to the  
destination, or  
a node loses the last path to a destination, or  
a node suffers a distance increase to a destination.

18. (currently amended): A method for routing data packets in a wireless  
network at a node  $i$ , comprising:

- (a) selecting a neighbor  $p$  as ~~[[the]]~~ a next hop in a route from node  $i$  to  
destination  $j$  if
- (i) the path from neighbor  $p$  to destination  $j$  does not include node  $i$   
and does not repeat any node, and
  - (ii)  $D_{yp}^i < D_{yx}^i$  for any other neighbor  $x$  and for all nodes  $y$  that are in the  
path from destination  $j$  to neighbor  $p$ ,
- where  $D_{yp}^i$  is the distance value of the route from node  $i$  to node  $y$  through  
neighbor  $p$  and  $D_{yx}^i$  is the distance value of the route from node  $i$  to node  $y$   
through neighbor  $x$ ;
- (b) sending updates to a routing table if
- (i) a node discovers a new destination with a finite and valid path to  
the destination, or
  - (ii) a node loses the last path to a destination, or
  - (iii) a node suffers a distance increase to a destination;
- (c) sending a unicast routing table update from a node to a neighbor that  
sends it a data packet, if the neighbor is upstream from it towards the destination; and



Appl. No.: 09/883,082  
Amdt. Dated: 04/19/2005  
Off. Act. Dated: 03/29/2005

(d) sending a unicast routing table update from a node to a neighbor that sends it a data packet when the path implied by the neighbor's distance table entry is different from the path implied by the node's routing table.

19. (original): A method as recited in claim 18,  
wherein a first node considers a second as its neighbor if it hears update messages from said second node; and  
wherein said first node no longer considers said second node as its neighbor if said first node cannot send data packets to said second node.

20. (currently amended): A method for routing data packets in a wireless network at a node  $i$ , comprising:

- (a) selecting a neighbor  $p$  as ~~[[the]]~~ a next hop in a route from node  $i$  to destination  $j$  if
- (i) the path from neighbor  $p$  to destination  $j$  does not include node  $i$  and does not repeat any node, and
  - (ii)  $D_{jp}^i < D_{jx}^i$  for any other neighbor  $x$  and for all nodes  $y$  that are in the path from destination  $j$  to neighbor  $p$ ,
- where  $D_{jp}^i$  is the distance value of the route from node  $i$  to node  $y$  through neighbor  $p$  and  $D_{jx}^i$  is the distance value of the route from node  $i$  to node  $y$  through neighbor  $x$ ;
- (b) sending updates to a routing table if
- (i) a node discovers a new destination with a finite and valid path to the destination, or
  - (ii) a node loses the last path to a destination, or
  - (iii) a node suffers a distance increase to a destination.

Appl. No.: 09/883,082  
Amdt. Dated: 04/19/2005  
Off. Act. Dated: 03/29/2005

- (c) sending a unicast routing table update from a node to a neighbor that sends it a data packet, if the neighbor is upstream from it towards the destination; and
- (d) sending a unicast routing table update from a node to a neighbor that sends it a data packet when the path implied by the neighbor's distance table entry is different from the path implied by the node's routing table;
- (e) wherein a first node considers a second as its neighbor if it hears update messages from said second node; and
- (f) wherein said first node no longer considers said second node as its neighbor if said first node cannot send data packets to said second node.